SoilHOMC Model: Soil Heating and Organic Matter Combustion Model
Model Input-Output guide

1. Model inputs:
   a. Soil description:
      - Sand and clay weight fraction (g/g)
      - Bulk density (kg/m3)
      - Volumetric pore radius (mm) [Recommended: 1.5 mm]
      - Initial temperature (°C)
      - Initial volumetric water content (cm3/cm3)
      - Initial SOM content (g/g)

   b. Wildfire description:
      - Wildfire surface temperature (°C)
      - Exposure time (h)

   c. Simulation parameters:
      - Soil depth (m)
      - Cell size (m)
      - Time stability corrector (-) [Recommended: values between 0.01 and 0.001]

2. Model outputs

   The model has two outputs: (1) Soil temperature, in °C, and (2) SOM content, in g/g. The outputs are written in separated .csv extension files where rows represent space and columns time. Values within a line are delimited by commas. Table 1 shows an example of the outputs structure.

   Table 1. Outputs structure. Cells in orange are soil depth values, cells in green are time values, and grey cells are the profile (Temperature or SOM) values.

0	z = 0	...	z = Soil depth
t = 0	T_0^0		T_L^0
⋮	⋮		⋮
t = Exposure time	$T_0^{t_f}$	...	$T_L^{T_f}$

   First row contains soil depth values in meters and first column contains time values in hours (First entry is a dummy value). The profile evolution is represented in the [TxN] matrix contained between first row and column.